AMENDMENTS TO THE CLAIMS

Please substitute the following claims for the pending claims with the same numbers respectively:

Claim 1 (Currently amended): A portable audio device having a signal processing device for performing digital audio decoding comprising:

a distribution section which divides a first digital signal framed for each predetermined time interval to (N × t + i)th frame signals (i and t are integers, N is a natural number greater than 1, and 0 ≤ i < N) and distributes said frame signals for each frame interval one after another;

first to Nth sub signal processing sections each of which is given ~~(N × t + i)th~~ said frame signals ~~(i and t are integers, N is a natural number, and 0 ≤ i < N) of a first digital signal framed for each predetermined time interval~~ from said distributing section, and each of which completes a first process within a period (N × T) (T is a real number);

a selection section which selects one of a processed signal outputted from said first to Nth sub signal processing sections for each frame interval one after another; and

a main signal processing section which converts a signal ~~processed in a (i + 1)th sub-signal processing~~ inputted from said selection section into a second digital signal by completing a second process within a period T;

wherein said first digital signal is a compressed and encoded signal of an audio signal;

said second digital signal is a PCM signal of an audio signal;

said first process contains a process picking out information from the compressed and encoded signal to convert the information into information of a frequency spectrum; and

~~wherein the~~ said second process contains a process ~~employing~~ converting said information ~~generated in a past frame time; and~~

~~the first process excludes the information generated in the past frame time~~ of said frequency spectrum into said PCM signal having a time basis.

Claim 2 (Cancelled):

Claim 3 (Currently amended): ~~The~~ A portable audio device

having a signal processing device ~~according to claim 1, wherein~~

~~said signal processing device further~~ for performing digital

audio decoding comprising:

first to Nth sub signal processing sections each of which is

given (N × t + i)th frame signals (i and t are integers, N is a

natural number greater than 1, and 0 ≤ i < N) of a first digital

signal framed for each predetermined time interval and each of

which completes a first process within a period (N × T) (T is a

real number);

a first memory ~~storing~~ which stores said frame signal of

said first digital signal one after another;

a main signal processing section which converts a signal

processed in said (i + 1)th sub signal processing section into a

second digital signal by completing a second process within a

period T;

a second memory ~~storing~~ which stores said frame signal of

said second digital signal one after another; and

a distribution and selection section which sends the (N × t

+ i)th frame signal (i and t are integers, and 0 ≤ i < N)

obtained from said main signal processing section to said (i +

1)th sub signal processing section, receives the signal on which

said first process has been performed for the (N × (t - 1) + i)th

frame signal from the (i + 1)th sub signal processing section,

and outputs said signal to said main signal processing section;

~~and~~

wherein said first to Nth sub signal processing sections are

connected to said distribution and selection section, performs

the first process for said frame signal received from said

distribution and selection section, and sends the after-process

signal to said distribution and selection section; and

~~wherein~~ said main signal processing section is connected to

said first and second memories, picks out said frame signal from

said first memory for each time interval T one after another to

output said frame signal to said distribution and selection

section, and performs said second process for said signal

received from said distribution and selection section to store

this after-process signal in said second memory<u>;</u>

<u>said first digital signal is a compressed and encoded signal</u>

<u>of an audio signal;</u>

<u>said second digital signal is a PCM signal of an audio</u>

<u>signal;</u>

said first process contains a process picking out

information from the compressed and encoded signal to convert the

information into information of a frequency spectrum; and

said second process contains a process converting said

information of said frequency spectrum into said PCM signal

having a time basis.

Claims 4-5 (Canceled):

Claim 6 (Currently amended): The signal processing device
according to claim [[5]] 1, wherein

said first process contains a decoding process of a variable

length code; and

said second process contains an inverse MDCT process.

Claim 7 (Currently amended): The signal processing device
according to claim [[5]] 1, wherein

said first process contains an inverse quantizing process

inversely quantizing said compressed and encoded signal, and

said second process contains a sub-band synthesis filter

bank process.

Claim 8 (Previously presented): The signal processing device according to claim 1, wherein

a division is made for said first process and said second process so that the calculation period necessary for said first process is N times a calculation period necessary for said second process.

Claim 9 (Cancelled):

Claim 10 (Currently amended): A signal processing device for performing digital audio encoding comprising:

a main signal processing section which is given (N x t + i)th frame signals (i and t are integers, N is a natural number greater than 1, and 0 ≤ i < N) of a first digital signal framed for each predetermined time interval and which completes a first process within a period T (T is a real number);

a distribution section which divides said frame signal outputted from said main signal processing section into said first to Nth frame signal for each frame interval one after another;

first to Nth sub signal processing sections each of which is given [[a]] the (i + 1)th processed frame signal ~~after the first digital signal had been processed in said main signal processing~~ from said distribution section and converts [[a]] said frame signal into a second digital signal by completing a second process within a period (N × T); and

a selection section which selects one of the after-process signals outputted from said first to Nth sub signal processing sections for each frame interval one after another;

wherein said first digital signal is a PCM signal of an audio signal;

said second digital signal is a compressed and encoded signal of an audio signal;

~~wherein~~ said first process ~~excludes information generated in a past frame time~~ contains a process converting said PCM signal into information of a frequency spectrum; and

said second process ~~using the information generated in the past frame time~~ contains a process encoding and compressing said information of said frequency spectrum.

Claim 11 (Cancelled):

Claim 12 (Currently amended): The signal processing device ~~according to claim 10, wherein said signal processing device further~~ for performing digital audio encoding comprising:

a main signal processing section which is given (N × t + i)th frame signals (i and t are integers, N is a natural number greater than 1, and 0 ≤ i < N) of a first digital signal framed for each predetermined time interval and which completes a first process within a period T (T is a real number);

a first memory ~~storing~~ stores said frame signal of said first digital signal one after another;

first to Nth sub signal processing sections each of which is given the (i + 1)th frame signal after the first digital signal has been processed in said main signal processing section and converts the frame signal into a second digital signal by completing a second process within a period (N × T):

a second memory ~~storing~~ stores said frame signal of said second digital signal one after another; and

a distribution and selection section which sends a signal ~~performed said first process and~~ obtained from said main signal processing section to said (i + 1)th sub signal processing section, receives a signal which said second process has been

performed for the (N × (t - 1) + i)th frame signal from said (i +

1)th sub signal processing section, and outputs said signal to

said main signal processing section; ~~and~~

wherein said main signal processing section is connected to

said first and second memories, picks out a frame signal from

said first memory for each time interval T one after another,

performs said first process for said (N × t + i)th frame signal

to output said frame signal to said distribution and selection

section, and stores this after-process signal received from said

distribution and selection section in said second memory; ~~and~~

~~wherein~~ said first to Nth sub signal processing sections

which perform said second process for said frame signal received

from said distribution and selection section, and sends the

after-process signal to said distribution and selection section;

said first digital signal is a PCM signal of an audio

signal;

said second digital signal is a compressed and encoded

signal of an audio signal;

said first process contains a process converting said PCM

signal into information of a frequency spectrum; and

<u>said second process contains a process encoding and compressing said information of said frequency spectrum.</u>

Claims 13-14 (Canceled):

Claim 15 (Currently amended): The signal processing device according to claim [[14]] <u>10</u>, wherein

said first process contains a MDCT process; and

said second process contains a Huffman coding process.

Claim 16 (Currently amended): The signal processing device according to claim [[14]] <u>10</u>, wherein

said first process contains a sub-band analysis filter bank process; and

said second process contains a quantizing process.

Claim 17 (Previously Presented): The signal processing device according to claim 10, wherein

a division is made for said first process and said second process so that a calculation period necessary for said second process is N times a calculation period necessary for said first process.

Claims 18-20 (Cancelled):

Claim 21 (New): A signal processing device comprising:

first to Nth sub signal processing sections each of which is given (N × t + i)th frame signals (i and t are integers, N is a natural number greater than 1, and 0 ≤ i < N) of a first digital signal framed for each predetermined time interval and each of which completes a first process within a period (N × T) (T is a real number);

a main signal processing section which converts a signal processed in a (i + 1)th sub signal processing section into a second digital signal by completing a second process within a period T; and

wherein the first process and the second process are completed for each i in a period (N × T + T).

Claim 22 (New): A signal processing device comprising:

a main signal processing section which is given (N × t + i)th frame signals (i and t are integers, N is a natural number greater than 1, and 0 ≤ i < N) of a first digital signal framed

for each predetermined time interval and which completes a first

process within a period T (T is a real number);

first to Nth sub signal processing sections each of which is

given a (i + 1)th frame signal after the first digital signal had

been processed in said main signal processing section and

converts a frame signal into a second digital signal by

completing a second process within a period (N x T);

wherein the first process and the second process are

completed for each i in a period (N x T + T).